THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A peptide of the formula: Asp Glu Asn Pro Val Val His Phe Phe Lys Asn Ile Val Thr Pro Arg Thr; including substitutions, additions or deletions thereof, provided that said substitutions, additions or deletions provide a peptide that is capable of neutralizing or modulating the production of anti-myelin basic protein.

2. A pharmaceutical composition containing as an active ingredient a peptide of the formula: Asp Glu Asn Pro Val Val His Phe Phe Lys Asn Ile Val Thr Pro Arg Thr; including substitutions, additions or deletions thereof, provided that said substitutions, additions or deletions provide a peptide that is capable of neutralizing or modulating the production of anti-myelin basic protein, in admixture with a pharmaceutical acceptable carrier.

3. A method of treating multiple sclerosis in a patient in need thereof by administering to said patient an effective amount of a peptide of the formula: Asp Glu Asn Pro Val Val His Phe Phe Lys Asn Ile Val Thr Pro Arg Thr; including substitutions, additions or deletions thereof, provided that said substitutions, additions or deletions provide a peptide that is capable of neutralizing or modulating the production of anti-myelin basic protein, in admixture with a pharmaceutical acceptable carrier.

4. A method of treating multiple sclerosis in a patient in need thereof by administering to said patient an effective amount of a peptide of the formula:

$$R_1\text{-Val-His-Phe-Phe-Lys-Asn-Ile-}R_2$$

and salts thereof, wherein R_1 and R_2 are independently selected from the group consisting of hydrogen, hydroxy, an amino acid residue and a polypeptide residue;

provided that R_1 and R_2 are not both hydrogen or hydroxyl at the same time; including substitutions, additions or deletions thereof provided that said peptide is capable of neutralizing or modulating the production of anti-myelin basic protein, alone or in combination, in admixture with a pharmaceutical acceptable carrier; wherein said method comprises administering sequential doses of said peptide.

5. The method of claim 4, wherein R_1 is Asn-Pro-Val- and R_2 is hydrogen or hydroxy.

6. The method of claim 4, wherein R_1 is Pro-Val- and R_2 is -Val.

7. The method of claim 4, wherein R_1 is Val- and R_2 is -Val-Thr.

8. The method of claim 4, wherein R_1 is hydrogen or hydroxy and R_2 is -Val-Thr-Pro.

9. The method of claim 4, wherein R_1 is Lys-Ser-His-Gly-Arg-Thr-Gln-Asp-Glu-Asn-Pro-Val- and R_2 is -Val-Thr.

10. The method of claim 4, wherein R_1 is Asp-Glu-Asn-Pro-Val- and R_2 is -Val-Thr-Pro-Arg-Thr.

11. The method of claim 4, wherein the peptide is administered intravenously, intrathecally or a combination of both.

12. The method of claim 11, wherein the peptide is administered intravenously at a dose ranging from 1 mg/kg of body weight to 10 mg/kg of body weight.

13. The method of claim 11, wherein the peptide is administered intrathecally at a dose ranging from 1 mg to 100 mg.

14. The method of claim 11, wherein the peptide is administered at least daily for four to five days.

15. The method of claim 14, wherein the peptide if further administered in an additional dose about one week after the first injections.